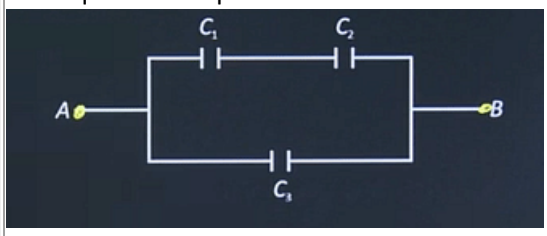
JEE MAIN 4 APRIL 2025 SHIFT 2

PHYSICS QUESTION PAPER WITH ANSWER KEY

Q.No.	Question	Answers
1	A disc is performing pure rolling if speed of top point is 8 m/s. Find speed of point B.	3. 6 m/s
2	The equivalent capacitance between A and B is 	2. $C_1C_2+C_1C_3+C_2C_3/C_1+C_2$
3	A particle of mass m is at a distance 3R from the centre of Earth. Find the minimum kinetic energy of particle to leave Earths field (R: Radius of Earth)	1. mgR/3
4	In a YDSE setup, the slits are separated by 1.5 mm and the distance between slits and screen is 2 mm. On using light of wavelength 400 mm, it is observed that 20 maximas of double slit experiment lie inside the central maxima of single slit diffraction. The width of each slit is _____ μm.	150
5	If the displacement of the block is 5 m, the work done by force applied is (coefficient of friction between block and surface is 1/4)	4. 500 J
6	The dimensional formula of the ratio of electrical dipole moment to the magnetic moment is $M^PL^QT^RA^S$. Then P, Q, R, and S are	1. 0, -1, 1, 0
7	Two polarises P_1 and P_2 are aligned in such a way that intensity is zero. P3 polarises is inserted between P_1 and P_2 such that final transmitted ray will have the maximum intensity. Find angle between P_1 and P_3.	1. π/4
8	A medium has relative permittivity 1/0.085 and relative permeability is 10/π. Find ratio of speed of light in vacuum to the medium.	1. 6.12
9	Given below are two statements: One is labelled as Assertion (A) and the other is labelled as Reason	1. A is false and R is true.

	(R). Assertion (A): Plank's constant and linear momentum have same dimensions. Reason (R): Bohr's angular momentum is integral multiple of h/2π.	
10	If resistor $R_1 = R_2 = R_3 = 5\Omega$ and $R_4 = 10\Omega$ which circuit diagram is having equivalent (across A and B) resistance = 6Ω